

**REMARKS**

Favorable consideration and allowance are requested for claims 1-8 and 10-14 in view of the following remarks.

**Status of the Application**

Claims 1-8 and 10-14 are pending in this application. Claims 1, 2, 9 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,889,516 to Sasaki (the “Sasaki patent”). Claims 10 and 11 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,664,751 to Gabriel (the “Gabriel patent”). Claims 3-8, and 12 and 13 were objected to as being dependent upon the rejected base claims 1 and 11, respectively, but would be allowable if rewritten in independent form. Claim 9 has been canceled. Claims 1, 10, and 11 have been amended. Claim 14 has been added.

**Amendments to the Specification and Abstract**

Amendments were made to the specification and abstract to correct several typographical errors related to the relationship between  $\Delta T_1$  and  $\Delta T_2$ . In particular, as filed, the specification and the abstract inadvertently reversed the relative magnitudes of  $\Delta T_1$  and  $\Delta T_2$ . The correct relationship between  $\Delta T_1$  and  $\Delta T_2$  is now properly represented in the specification and abstract as follows:

$$\Delta T_1 < \Delta T_2.$$

The relationship between these parameters is described in the specification:

Thus, with the known structure, the car-mounted inverter is subjected to both of a temperature cycle within the range from the environment

temperature to  $d^{\circ}\text{C}$  with start and stop of the operation, which is represented by the solid line A, and a temperature cycle within the range of  $b^{\circ}\text{C}$  to  $d^{\circ}\text{C}$  during the operation. In contrast, with the structure of this embodiment, the car-mounted inverter is subjected to both of a temperature cycle within the range from the environment temperature to  $g^{\circ}\text{C}$  with start and stop of the operation, which is represented by the solid line D, and a temperature cycle within the range of  $e^{\circ}\text{C}$  to  $g^{\circ}\text{C}$  during the operation.

Specification at page 14, line 22 to page 15, line 5. As can be seen in Figure 2, the temperature variation experienced by the semiconductor device when used with the cooling system of the present invention (g-e) is less than the temperature variation experienced by the semiconductor device when used without the cooling system of the present invention (d-b), where  $\Delta T_1$  is (g-e) and  $\Delta T_2$  is (d-b). See Specification at page 15, lines 5-9 (“In other words, a variation width ( $\Delta T_1$ ) of temperature controlled by the cooling system through the heating section and the radiator and a temperature variation ( $\Delta T_2$ ) of the refrigerant caused by variations in operating conditions of the semiconductor device 100 . . .”). As the detailed teachings of the specification are consistent with the corrections made to the specification and abstract, no new matter has been introduced by way of these amendments.

Rejections under 35 U.S.C. § 102(e)

According to the Office Action, the Sasaki patent anticipates claims 1, 2, and 9. In response, Applicants respectfully submit that the amendment to independent claim 1 renders this rejection moot and, therefore, request that the rejection of claim 1 be withdrawn. As claim 2 depends from claim 1, this rejection should also be withdrawn.

The Office Action also stated that claims 10 and 11 are anticipated by the Gabriel patent. In response, Applicants respectfully submit that the Gabriel patent discloses two radiators: one for the internal combustion engine and one for the power conversion unit. *See, e.g.*, Gabriel patent at Figure 4 (radiator 805) and col. 10, lines 6-8 (“For example, by placing the electronics radiator 805 near the radiator or radiator fan for the internal combustion engine 511 . . . ). As a result, there are two refrigerant paths disclosed in the Gabriel patent: one for cooling the internal combustion engine and one for cooling the power conversion unit. Therefore, the Gabriel patent does not disclose the subject matter of claims 10 and 11. As a result, Applicants request that the rejection of these claims be withdrawn.

Objection to Claims

Applicants gratefully acknowledge the indication of allowable subject matter for claims 3-8, 12, and 13. Based on the arguments presented above with respect to independent claims 1 and 11, Applicants respectfully submit that claims 3-8, 12, and 13 are allowable in their current form.

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If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

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please charge any deficiency in fees or credit any overpayments to Deposit  
Account No. 05-1323 (Docket #056205.58068US).

Respectfully submitted,

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